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10/693,158	10/24/2003	Shankar Pal	MSFT-2851/306821.01	1679
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BETTT, JACOB F				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/693,158

Applicant(s)

PAL ET AL.

Examiner

JACOB F. BETIT

Art Unit

2169

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-9,11-14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9,11-14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 9/26/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 October 2008 has been entered.

Remarks

2. In response to communications filed on 24 October 2008, claims 1, 7, and 12 have been amended per the applicant's request. Claims 1-3, 5-9, 11-14, 16, and 17 are presently pending in the application.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 12-14, 16, and 17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In paragraph 0115 of the specification the applicant has provided evidence that the applicant intends the medium to include signals as such the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim is not statutory. Energy is not a series of steps or acts and thus is not a process.

Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5-9, 11-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau et al. (U.S. patent No. 6,721,727 B2) in view of Cheng et al. (U.S. patent No. 6,366,934 B1).

As to claim 1, Chau et al. teaches a method for use in a database system in which a user defined type is defined by a class in managed code and comprises a plurality of fields (see column 7, lines 8-12, where it is known in the art that user defined types are classes that are managed from within the DBMS), each field having a respective data type, the method comprising:

defining another class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21);

defining at least one of the plurality of fields of the user defined type as having the XML data type and associating said at least one field of the instance of the user defined type with an XML Schema that defines a content model for the XML data in the field (see column 7, lines 52-

65; column 9, lines 1-9; and column 83, lines 55-60, where it is shown that a reference to a DTD (XML schema) is made in a DAD);

instantiating the class defining the user defined type to create an object of the user defined type, wherein the object holds XML data in said at least one field (see column 7, lines 43-51, an object is created and stored in the relational table each time an XML document is stored in the relational table); and

persisting the object within a database store (see column 6, lines 14-23).

Chau et al. does not distinctly disclose less than all of the fields of the user defined type having the XML data type; defining at least one other of said plurality of fields as having a different data type; and the object holding data of said different data type in at least one other field.

Cheng et al. teaches this, see column 9, line 57 through column 1, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 2, Chau et al. as modified, teaches wherein the managed code class that represents the XML data type comprises at least one constructor (see Chau et al., column 8, lines 36-41 and 57-59) and at least one method that returns an object through which the XML data in said at least one field of the persisted object of the user defined type can be retrieved (see Chau

et al., column 8, lines 36-41 and 65-66).

As to claim 3, Chau et al. teaches further comprising adding a method to the managed code class definition of the user defined type to implement a behavior on said at least one field of the user defined type (see Chau et al., column 8, lines 14-21).

As to claim 5, Chau et al. teaches wherein said associating step comprises annotating the managed code class definition of the user defined type with an attribute that identifies the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 6, Chau et al. teaches further comprising at least one of the steps of: querying the object persisted within the database store; and modifying the object persisted within the database store (see Chau et al., column 8, lines 60-64 and see column 44, lines 37-44).

As to claim 7, Chau et al. teaches a system comprising:
a runtime that provides managed code execution (see column 7, lines 8-12), the runtime comprising:
a class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21); and
another class in managed code that defines a user defined type, the class definition for the user defined type comprising a plurality of fields, each field having a respective data type, at

least one of said plurality of fields being defined as having the XML data type (see column 7, lines 52-65);

wherein said managed code class that defines the user defined type further comprises an association between said at least one field of the instance of the user defined type that contains XML data and an XML Schema that defines a content model for the XML data in the field (see column 9, lines 1-9, and see column 83, lines 55-60); and

a database store that instantiates the class defining the user defined type to create an object of the user defined type and that stores the object, whereby said at least one field of the stored object contains XML data (see column 6, lines 14-23 and see column 7, lines 43-51).

Chau et al. does not distinctly disclose less than all of the plurality of fields being defined has having the XML data type; at least one other of said plurality of fields being defined as having a different data type; and said at least one other field of the object contains data of said different data type.

Cheng et al. teaches this, see column 9, line 57 through column 1, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 8, Chau et al. as modified, teaches wherein the managed code class that represents the XML data type comprises at least one constructor (see Chau et al., column 8, lines 36-41 and 57-59) and at least one method that returns an object through which the XML data in

the field of the stored object of the user defined type can be retrieved (see Chau et al., column 8, lines 36-41 and 65-66).

As to claim 9, Chau et al. as modified, teaches wherein the managed code class that defines the user defined type further comprises a method that implements behavior on the field of the instance of the user defined type that contains XML data (see Chau et al., column 8, lines 14-21).

As to claim 11, Chau et al. as modified, teaches wherein the association comprises an attribute applied to the field within the managed code class that defines the user defined type, the attribute identifying the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 12, Chau et al. teaches a computer readable medium having program code stored thereon, said program code causing a computer to:

define a first class in managed code that represents an XML data type (see column 7, lines 27-42 and see column 8, lines 14-21);

define a second class in managed code that defines a user defined type, the second class comprising a plurality of fields, each field having a respective data type, at least one, but less than all, of the fields within the second class being defined as having the XML data type and being associated with an XML Schema that defines a content model for the XML data in the

field, and at least one other of said plurality of fields being defined as having a different data type (see column 7, lines 52-65; see column 9, lines 1-9; and see column 83, lines 55-60).

instantiate the class defining the user defined type to create an object of the user defined type, wherein said at least one field of the object holds XML data and said at least one other field of the object holds data of said different data type (see column 7, lines 43-51); and

persist the object within a database store (see column 6, lines 14-23).

Cheng et al. teaches this, see column 9, line 57 through column 1, line 21. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Chau et al. to include the teachings of Cheng et al. because these teachings would allow the user to add additional attributes to user defined types resulting in greater flexibility in the data that is ultimately stored in the database.

As to claim 13, Chau et al. as modified, teaches wherein the first class comprises at least one constructor (see Chau et al., column 8, lines 36-41 and 57-59) and at least one method that returns an object through which the XML data in the field of the persisted object of the user defined type can be retrieved (see Chau et al., column 8, lines 36-41 and 65-66).

As to claim 14, Chau et al. as modified, teaches wherein the second class further comprises a method that implements behavior on said at least one field of the user defined type (see Chau et al., column 8, lines 14-21).

As to claim 16, Chau et al. as modified, teaches wherein said at least one field is associated with said XML Schema by an annotation to the definition of said at least one field in the second class of an attribute that identifies the XML Schema on a server that hosts the database store (see Chau et al., column 9, lines 1-9 and column 83, lines 5-60).

As to claim 17, Chau et al. as modified, teaches wherein said program code further causes the computer to: query the object persisted within the database store; and modify the object persisted within the database store (see Chau et al., column 8, lines 60-64 and see column 44, lines 37-44).

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Bétit whose telephone number is (571)272-4075. The examiner can normally be reached on Monday through Friday 10:30 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2169

/Jacob F Bétit/
Examiner, Art Unit 2169

/jfb/
Examiner, Art Unit 2169
4 Jan 2009